ATLAS PARK (DAR SITE ID #1)

Address:	8000 Cooper Avenue, Glendale, New York 11385
Tax Lot Parcel(s):	Queens Block 3810, Lots 2, 29, 33, and 350
Latitude:	40.708605
Longitude:	-73.867936
Regulatory Programs/ Numbers/Codes:	BCP No. C241045 (Parcel A), C241088 (Parcel B), C241113 (Parcel C); USEPA ID No. NYR000118422 and NYD088498514; CBS No. 2-000017; PBS No. 2-056103; NYSDEC Spill Nos. 0306686, 0410523, 0412201, and 0500862
Analytical Data Status:	☐ Electronic Data Available ☒ Hardcopies only ☐ No Data Available

1 SUMMARY OF CONSTITUENTS OF POTENTIAL CONCERN (COPCs) TRANSPORT PATHWAYS TO THE CREEK

The current understanding of the transport mechanisms of contaminants from the upland portions of the Atlas Park site (site) to Newtown Creek is summarized in this section and Table 1 and supported in the following sections.

Overland Transport

The site is located approximately 2.7 miles from Newtown Creek and associated waterways. This is not a complete historical or current pathway.

Bank Erosion

The site is not adjacent to Newtown Creek or associated waterways. This is not a complete historical or current pathway.

Groundwater

The site is located approximately 2.7 miles from Newtown Creek and associated waterways. Groundwater flow direction at the site is reported to be to the south and southwest and occurs at approximately 50 to 60 feet below ground surface (bgs). In 2005, a spill of No. 6 fuel oil to groundwater was documented in documents available for review. Available

documents also indicate site groundwater is impacted by chlorinated volatile organic compounds (CVOCs), including tetrachloroethylene (PCE) and trichloroethylene (TCE). Ongoing quarterly groundwater monitoring has been performed since 2006 following remedial actions. Trends in groundwater monitoring indicate that concentrations have declined over time and the groundwater plume is well defined. Due to the distance from the creek and because the groundwater plume is delineated, there is insufficient evidence to make a historical or current pathway determination.

Overwater Activities

This site is not adjacent to Newtown Creek or associated waterways and has no overwater activities. This is not a complete historical or current pathway.

Stormwater/Wastewater Systems

Information available for review did not discuss stormwater or wastewater management practices at the site. This site is within the southeast extent of the Bowery Bay Water Pollution Control Plant (WPCP) sewershed. The site, including Parcels A, B, and C, is approximately 18.8 acres and has had a variety of industrial uses since the early 1900s. An industrial wastewater permit (IWD) is referenced in a Phase I Environmental Site Assessment report (Ambient 2001); however, no details are provided. There is insufficient evidence to make a historical or current pathway determination for direct discharge of stormwater, wastewater, and sewer/combined sewer overflow (CSO).

Air Releases

Information related to air discharges was not located for this site. As part of remedial activities, two on-site air sparging/soil vapor extraction (AS/SVE) systems operate within Parcel B, and new buildings within Parcel A and B were constructed with a sub-slab depressurization system. Information related to the operation and maintenance of these systems was not available. There is insufficient evidence to make a historical or current pathway determination.

2 PROJECT STATUS

A summary of investigation and remedial activities at the site is provided in the following table. The site participated in the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) in conjunction with property redevelopment activities. To accommodate different remedial strategies and redevelopment phasing, the site was separated into three parcels (A, B, and C). To date, two of the three parcels (A and B) have received a certificate of completion (COC) from NYSDEC. Parcel C is in the process of completing a Remedial Investigation (RI) and is undergoing remedial planning.

Activity		Date(s)/Comments
Phase 1 Environmental Site Assessment	☒	Phase 1 Environmental Site Assessment (2001)
Site Characterization	☒	Phase 2 Environmental Site Investigation (2002/2008)
Remedial Investigation	☒	Remedial Investigation Report (Parcel C; 2011)
Remedy Selection	☐	
Remedial Design/Remedial Action Implementation	☒	Final Engineering Report (Parcel B; 2006)
Use Restrictions (Environmental Easements or Institutional Controls)	☒	Cleanup Performed to Unrestricted (Parcel A) and Commercial Use with Environmental Easement (Parcel B; 2006)
Construction Completion	☒	Parcels A and B (2006)
Site Closeout/No Further Action Determination	☒	NYSDEC COC for Brownfield Cleanup Program – Parcels A and B (2005/2006)

Notes:
COC – certificate of completion
NYSDEC – New York State Department of Environmental Conservation

- NYSDEC Site Code(s): BCP Site No. C241045 (Parcel A), C241088 (Parcel B), C241113 (Parcel C)
- NYSDEC Site Manager: Bryan Wong

3 SITE OWNERSHIP HISTORY

Respondent Member: ☐ Yes ☒ No

Owner	Years	Occupant	Type of Operation
H. Wolfert	Unknown – 1891	H. Wolfert	Unknown
Wolfert Est.	Unknown – 1902	Wolfert Est.	Unknown
S.K. Jacobs	1902 – unknown	Owner	Unknown
	ca. 1903	American Grass & Twine Co.	Unknown
	ca. 1909	J. W. Bishop Co.	Farm land, knitting mill on site
Winters Realty Company	Unknown – 1922	Owner	Unknown
	ca. 1914	Chocolate and Print Machinery	Machine shop on site
	ca. 1914	Prairie Grass Furniture Co.	Furniture manufacture and storage
	ca. 1914	American Sales Book Co.	Special printing
Hemmerdinger Estate Corporation	1922 – 1941	Owner	Unknown
	1922 – 1952	Atlas Waste Mfg. Co., Inc. (aka Atlas Waste; Atlas Waste Company)	Cotton waste, upholstery manufacturing, wiping and packing waste, wool and rayon shoddies, and garneted stocks, baled cotton waste storage
	ca. 1936	Triangle Conduit Co.	Wire cable manufacturer
	ca. 1936	Gleitman's, Inc.	Reed baskets
	ca. 1936	Anchor Steel Products Corporation	Unknown
	ca. 1936	Arrow Die Co., Inc.	Unknown
	ca. 1936	Daniel Duskis Inc.	Sand and cement storage
	ca. 1936	Eureka Oil Corporation	Warehouse
	ca. 1936	Glendale Glass Co.	Manufacturer of glass bottles
	ca. 1936	Pequot Manufacturing Co.	Paper boxes
	ca. 1936	Hussey Williams Inc.	Lumber storage
	ca. 1936	Sheetpaint Products Corporation	Unknown
	1936 – 1951	Glendale Sash and Millwork Corporation	Sash, door and trim manufacturer
	1936 – 1953	Glendale Steel Corporation	Steel products
	1936 – 1955	Atlas Canning Co.	Dog food
	1937 – 1983?	Terminal Steam Laundry	Unknown
	1939 – 1983?	Atlantic Coast Oil	Unknown

Owner	Years	Occupant	Type of Operation
Mol-Mon Realty Company, Inc.	1941 – 1974	Owner	Unknown
	1942 – 1962	LaBelle Silver Co., Inc.	Hollow ware, silver manufacturer
	1942 – 1970	Interstate Container Corporation	Corrugated boxes and containers, cardboard container manufacturer
	1943 – 1983?	National Magnesia Corp.	Citrate magnesia solution USP
	1944 – 1992?	Glendale Products	Custom furniture making
	1947 – 2006	Atlas Terminals, Inc.	Industrial Terminal
	ca. 1950	Amity Dyeing & Finishing Co., Inc.	Rayon dyeing and finishing
	ca. 1950	Dilbert Bros., Inc.	Unknown
	ca. 1950	Hercules Powder Co.	Unknown
	ca. 1950	Standard Yarn Corp.	Unknown
	ca. 1950	United Backing Co., Inc.	Unknown
	Unknown – 1951?	Kraft Foods Co.	Distributor of cheese products, salad dressings, margarine, confections, milk products, oven-ready biscuits
The Hemmerdinger Corporation	1974 – 2003	Owner	Unknown
	1975 – 1983 1983 – unknown	Empire Art Products Co., Inc.	Unknown
	1976 – 1978	All Seasons Industrial Services, Inc.	Dust control services—rental of treated dust mops, cloths and entrance mats; serving industrial plants, offices, banks, nursing homes, hospitals, schools & retail firms
	1977 – 1986?	Akton Adhesives, Inc.	Manufacturer of industrial adhesives
	1986 – 1989	Amscomatic, Inc.	Packaging machinery
	1993, 2000 – 2001 (2003 – 2004)	All Seasons Pad-Ex Services, Inc. (Am Pad-Ex Inc.)	Janitorial services and supplies, commercial laundry & dust mop & mat rental company
	1993 – 1997	NMC Laboratories, Inc.	Drug manufacturers
	1995 – 2000	A and J Care	Medical equipment
	03/01/95 – 12/31/03	J and D Knitting Concepts Inc.	Unknown

Owner	Years	Occupant	Type of Operation
The Hemmerdinger Corporation	1996 – 1998	Nu Concept Food Services Ltd.	Food service
	04/01/96 – 03/31/11	Sunrise Tech & Trading (P.C. Computers)	Unknown
	11/01/98 – 10/31/03	Nonami Trading, Inc.	Unknown
	1999 – 2000	Collegiate Bookstore Associates, Inc.	Bookstore
	1999 – 2000	N.S. Low and Co., Inc.	Hospital equipment, supplies
	1999 – unknown	Bavarian Alps Konditerei Pastries	Baking goods distributor
	2000 – 2001	JJ Paper Supply, Inc.	Office supplies & services, office supplies, printing & furniture
	01/01/00 – 12/31/03	Procomm Sound (C. Cascioli)	Unknown
	04/01/00 – 2006	Alfa Card, Inc.	Printers, plastic card printers, gift cards, membership cards, customer cards, telephone cards
	07/01/00 – 06/30/05	Apparel Services, Inc.	Unknown
	10/01/00 – 09/30/03	UPS Service Parts Logistics, Inc.	Unknown
	11/15/11 – 01/31/05	Public Stationary & Print Co., Inc.	Unknown
	2001 – 2006	Queens Symphony Orchestra	Unknown
	04/01/01 – 03/31/06	Wing's Foot and Sports Corp.	Unknown
	04/01/01 – 03/31/11	Tahki-Stacy Charles, Inc.	Unknown
	02/01/02 – 01/31/04	N.S. Lowe and Co Inc.	Unknown

Owner	Years	Occupant	Type of Operation
Atlas Terminals, LLC (Lot 2)	2003 – present	Owner	Unknown
	Unknown – 2011	CF Peters	International music publisher
	09/92 – 09/02?	Community School District 24	Unknown
	ca. 1992	N.C.C. Sportswear Corporation	Manufacture womens sportswear apparel and knit tops cutting and shipping operations
	Unknown	Christopher Hyland, Inc.	Purveyor of high-end fabrics and home furnishing products
	Unknown	Unicorn Construction	Unknown
	ca. 2000	Mason Medical Products division of M.R.C. Industries	Manufacturer of mattresses, slings, and medical foam cushions
	ca. 2000	Unknown	Warehouses
	ca. 1992	Glendale Products	Custom furniture maker
	ca. 1992	National Van Equipment Company	Manufacture pads for moving and custom covers
Atlas Park, LLC (Lot 350)	2003 – 2007	Owner	Unknown
	07/15/03 – 12/31/03?	Police Athletic League, Inc.	Unknown
	Unknown – 2003?	Board of Education	Unknown
	12/15/01 – 2006?	Country Wide Insurance Co., Inc.	Unknown
	07/01/03 – 2003?	Euro Books, Inc.	Unknown
	10/14/04 – present	Regal Cinemas, Inc.	Multiple auditorium motion picture theater
	2006 – present	The Shops at Atlas Park	Various retail outlets, coffee shops, and restaurants
Atlas Park Associates, LLC/Atlas Park Associates II, LLC (Lot 350)	2007 – 2009	Owner	Unknown

Owner	Years	Occupant	Type of Operation
Credit Agricole Corporate and Investment Bank f/k/a Calyon New York Branch (Lot 350)	2009 – 2011	Owner	Unknown
WMAP, LLC (Lot 350)	2011 – present	Owner	Unknown

Notes:
aka – also known as
ca. – circa
f/k/a – formerly known as
Mfg. – manufacturing

4 PROPERTY DESCRIPTION

The property occupies approximately 18.8 acres located approximately 2.3 miles east of Newtown Creek. The site is separated into three parcels (Parcel A, B, and C) based on remedial strategies and phasing of property redevelopment. The size of each parcel is approximately 8.5 acres (Parcel A), 3.5 acres (Parcel B), and 6.8 acres (Parcel C). The site slopes gently away from the creek, from approximately 90 feet above mean sea level on the west property boundary to between 80 and 75 feet above mean sea level on the east property boundary (see Figure 1). The site currently consists of buildings, parking areas, and a central landscaped plaza area.

The area is zoned M1-1. M1 districts typically include light industrial uses (NYCDCP 2012). A 2010 aerial photograph of the site is presented as Figure 1. More recent site plans available for review are generally schematic and include environmental investigation and cleanup reporting. The site is bordered by Cooper Avenue and St. John Cemetery to the north, the Long Island Railroad and residential area to the south, 83rd Street and commercial/residential areas to the east, and 80th Street and commercial/residential areas to the west.

5 CURRENT SITE USE

The site is currently owned by a variety of entities (see Section 3) that collectively lease or manage commercial uses including shops, restaurants, a movie theater, parking garage, and distribution warehouses. The western portion of the site (Lot 350) is a mall center known as the Shops at Atlas Park and includes an outdoor landscaped community area. The eastern portion of the site (Lots 2, 29, and 33) consists of distribution warehouses and small commercial buildings.

Other site features include an active remedial system at Parcel B consisting of two on-site AS/SVE systems, as well as building sub-slab depressurization systems in both Parcels A and B.

6 SITE USE HISTORY

In 1891, the site was occupied by H. Wolfert (Wolverton Map 1891). A 1902 map then showed the site occupied by the Wolfert Est. (Sanborn 1902). American Grass Twine Co. occupied 17.5 acres of land with the presence of two buildings in the southwest portion of the lot near the railroad tracks in 1903 (Ullitz 1903). By 1909, J.W. Bishop Co. was on the site, as well as a knitting mill in the southwest portion of the lot near the railroad tracks (Bromley, G.W. & Co. 1909).

A 1914 Sanborn Map Company (Sanborn) map showed various roads within the site, including Graeme Avenue running east-west connecting Weisse Avenue (present-day 80th Street) and Delia Street (present-day 84th Street). The map also showed Alma Place and Barbara Place running north-south connecting Cooper Avenue and Graeme Avenue. Clara Place ran north-south and connected Cooper Avenue to Graeme Avenue where 83rd Street exists today. The remnants of Graeme Avenue may make up the southwestern portion of Doran Avenue that connects 83rd Street and 84th Street today (Sanborn 1914). The Long Island Railroad (L.I.R.R.) ran along Edsall Avenue on the southern edge of the site. Two tracks from the L.I.R.R. branched off from Edsal Avenue and into the site, surrounding the southernmost building (Sanborn 1914). By 1936, an additional set of train tracks branched off the Edsall Avenue (77th Avenue) line heading north through the site towards Cooper Avenue (Sanborn 1936).

Chocolate & Print Machinery occupied a loft building approximately 47,700 square feet and contained a machine shop near the intersection of Weisse Avenue and Edsall Avenue in 1914 (Sanborn 1914). By the 1930s, it was occupied by the Triangle Conduit Co., which manufactured wire cables, and Gleitman's Inc., located on the fourth floor, which created reed baskets. Triangle Conduit Co. also maintained offices in a small, detached building south of the main structure (Sanborn 1936). By 1950, the occupant of the loft building was Amity Dyeing Finishing Co., Inc., which specialized in rayon dyeing and finishing. La Belle Silver Co., Inc. occupied the former Triangle Conduit Co. office building (Sanborn 1950).

Adjacent to the loft building was an approximately 44,625-square foot structure, occupied in 1914 by the Prairie Grass Furniture Co. It consisted of a shipping room, store room, furniture store room, paper store room, varnish room, grass room, wood shop, stock room, and office (Sanborn 1914). By the 1930s, the building was used as a warehouse for lime and sash material. Also by 1936, there was a building occupied by Pequot Manufacturing Co., which made paper boxes, south of the lime warehouse (Sanborn 1936). By 1950, the building was occupied by Dilbert Bros., Inc. (Sanborn 1950).

North of this building and adjacent to the northern L.I.R.R. track stood a structure, approximately 15,375 square feet, that was occupied in 1914 by the American Sales Book Co., Special Printing (Sanborn 1914). By 1936, the building was expanded and was occupied by the Glendale Sash & Millwork Corporation (Sanborn 1936).

Henry Hemmerdinger formed the Hemmerdinger Estate Corporation in 1922 and purchased 180,000 square feet of buildings and about eighteen acres of land on Dry Harbor Road and Cooper Avenue from the Winters Realty Company (NYT 1922). A 1936 map stated that the Hemmerdinger Estate Corporation "owns all buildings" and described the site as Atlas Terminal (Sanborn 1936). A 1947 advertisement proclaimed Atlas Terminals as "The Home of 36 Queens Industrial Units" (Chamber of Commerce 1947). Since 1922, the site has essentially been owned by various Hemmerdinger family entities (NYT 2009).

Atlas Waste Company with H. Hemmerdinger was listed at Dry Harbor Road in 1924 (Chamber of Commerce 1924). By 1934, H. Hemmerdinger was President (Chamber of Commerce 1934). A number of structures (more than 70,000 square feet) occupied the site of

the Atlas Waste Mfg. Co., Inc. in 1936 and were used for the manufacture of upholstering materials, shredding and garneting, and waste storage (Sanborn 1936). Atlas Waste Mfg. Co., Inc., provided wiping and packing waste, wool and rayon shoddies, and garneted stocks in 1947 (Chamber of Commerce 1947). By 1950, the Atlas Waste Mfg. Co. had expanded into additional buildings used for baled cotton waste storage. Atlas Waste was sold in 1952 (atco555.com 2012).

In 1936, one of the larger buildings on the site, more than 26,000 square feet, was equipped with a chemical sprinkler system. The Glendale Steel Corporation occupied another large building, approximately 25,600 square feet, and used the building for sheet steel and tin plate storage (Sanborn 1936). Glendale Steel Corporation had an office and warehouse at Clara Place (83rd Street) near Central Avenue, also known as Cooper Avenue in 1936 (Chamber of Commerce 1936).

A loft, approximately 25,600 square feet, was built on the corner of Cooper Avenue and 80th Street in 1950 (Sanborn Map Company 1950). On June 1, 1975, Empire Art Products Co., Inc., became a tenant on the ground floor of the building, signing a lease that expired May 31, 1983 (Hemmerdinger Corporation 1975). The building was adjacent to an approximately 17,600-square-foot building, constructed in 1947. Also on 80th Street, large, irregularly shaped steel frame building, identified as No. 28, was occupied by Interstate Container Corporation, used for cardboard container manufacturing from 1942 to 1970. An additional curve-shaped building, identified as No. 27, stood behind it and was used as a paper warehouse (Sanborn 1950).

On April 30, 1941, the deed was transferred from Hemmerdinger Estate Corporation to Mol-Mon Realty Company, Inc. At the time, H. Dale Hemmerdinger was the President of Mol-Mon Realty Company, Inc. (Mol-Mon Realty Company, Inc. 2003).

ATCO Properties & Management, a subsidiary of the Hemmerdinger Corporation, was founded in 1977 and operated Atlas Terminals on Lot 2 (NYSDOS 2012; NYT 1992). In 1991, ATCO Properties & Management invested more than $1 million in upgrading a building with two floors and 30,000 square feet on Cooper Avenue and 80th Street. At the time, the

Atlas Terminal complex was 25 acres and had 38 buildings with more than a million square feet (NYT 1992).

On July 15, 2003, the site, which was identified as Tax Lot 2, was subdivided into two separate tax parcels: 2 and 350. A deed for the newly formed Lot 350 was issued on July 15, 2003, to Atlas Terminals, LLC and transferred to Atlas Park, LLC (Atlas Terminals, LLC 2003a, 2003b).

Atlas Terminals on Lot 2 contained 42 buildings with warehouses for college textbooks, plastic bags, and carpeting and lighting, as well as companies that made art frames, telephone calling cards, and European pastries. Mason Medical Products, a manufacturer of mattresses, slings, and medical foam cushions was the industrial park's largest tenant, at 130,000 square feet (NYT 2000). ATCO Properties & Management placed 11.3 acres (375,000 square feet) of Atlas Terminals property on the market in November 2011 (Salamanca 2011).

Atlas Park, LLC, owner of Lot 350, built a shopping mall that opened in 2006 (NYT 2009). Regal Cinemas, Inc., signed a lease with Atlas Park, LLC in 2004 to construct and occupy a 32,500-square-foot multiple auditorium motion picture theater structure scheduled to open on or before March 1, 2006 (Atlas Park, LLC 2004). On February 19, 2009, lenders took over the Shops at Atlas Park after Damon Hemmerdinger defaulted on a loan (Potkewitz 2009). On February 28, 2011, the deed was transferred to WMAP, LLC (Capello 2011). Macerich and Walton Street Capital made up WMAP, LLC (macerich.com 2012; Anuta 2011).

7 CURRENT AND HISTORICAL AREAS OF CONCERN AND COPCs

The current understanding of the historical and current potential upland areas of concern at the site is summarized in Table 1. The following sections provide a brief discussion of the potential sources and COPCs at the site requiring additional discussion.

7.1 Uplands

Potential historical and current contaminant sources at the site include operations from a variety of manufacturing and processing companies dating back to the early 1900s. Historical manufacturing and processing companies included millworks, cable

manufacturing, textile processing, paint and dye manufacturing, laundry, gunpowder and explosives, garage truck storage and maintenance, and various distribution companies (Ambient 2001). Features of these operations consisted of conveyance piping, petroleum products and chemical storage in underground storage tanks (USTs) and aboveground storage tanks (ASTs), electrical transformers, and a boiler room (Ambient 2001). In addition to site operations, historical fill placement was identified as a potential source of contamination.

The site currently has two identified hazardous waste generator identifications (IDs): 1) U.S. Environmental Protection Agency (USEPA) ID No. NYR000118422 (large quantity generator [LQG]) and USEPA ID No. NYD088498514 (small quantity generator [SQG]; USEPA 2012). Details of the type and quantity of waste generation were not available for review.

The site was a registered chemical bulk storage (CBS) facility (CBS No. 2-000017) and petroleum bulk storage (PBS) facility (PBS No. 2-056103; NYSDEC 2012). A total of 29 storage tanks (both ASTs and USTs) were located on site (Anchor QEA, LLC 2011). Details for 18 of the 29 tanks were found in available documents and are described in the following table:

Tank ID	Date Installed	Tank Status	Tank Location	Capacity (gallons)	Product
PBS No. 2-056103					
001	12/01/30	Closed – Removed 02/07/05	UST	20,000	No. 6 fuel oil
002	12/01/30	Closed – Removed 02/07/05	AST (subterranean vault)	20,000	No. 6 fuel oil
003	NR	Closed – Removed 09/30/03	UST	550	Kerosene (No. 1 fuel oil)
004	NR	Closed – Removed 09/30/03	UST	500	Kerosene (No. 1 fuel oil)
005	NR	Closed – Removed 09/30/03	UST	3,000	Empty
006	NR	Closed – Removed 09/30/03	UST	1,000	Gasoline
007	NR	Administratively closed 02/24/05	UST	500	Empty
008	NR	Administratively closed 02/24/05	UST	500	Empty
009	NR	Closed – Removed 11/12/03	UST	5,500	Empty

Tank ID	Date Installed	Tank Status	Tank Location	Capacity (gallons)	Product
010	NR	Closed – Removed 11/12/03	UST	1,000	Empty
011	NR	Closed – Removed 02/28/05	UST	550	No. 2 fuel oil
012	NR	Closed – Removed 03/31/05	UST	15,000	Other
013	NR	Closed – Removed 03/31/05	UST	15,000	Other
014	NR	Closed – Removed 03/31/05	UST	15,000	Other
015	NR	Closed – Removed 03/31/05	UST	15,000	Other
016	NR	Closed – Removed 03/31/05	UST	15,000	Other
017	NR	Closed – Removed 03/31/05	UST	550	No. 2 fuel oil
018	NR	Closed – Removed 04/30/05	UST	550	No. 2 fuel oil

Notes:
AST – aboveground storage tank
NR – not reported
PBS – petroleum bulk storage
UST – underground storage tank

Information on the remaining tanks under CBS No. 2-000017 was not found in available documents.

The COPCs for these sources include petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs; including CVOCs), metals, and other semi-volatile organic compounds (SVOCs).

7.2 Overwater Activities

This site is not adjacent to Newtown Creek or associated waterways and has no overwater activities.

7.3 Spills

Two spills were reported in the Parcel A COC, occurring during implementation of the remedial action at Parcel A (Walsh 2005). It was reported that the spills were associated with the discovery of a drum area and fuel USTs, and the spills were remediated and closed.

There are four documented spill incidents reported by the NYSDEC. Documented spills at the site are summarized as follows (NYSDEC 2012):

NYSDEC Spill No.	Spill Date	Close Date	Material Spilled	Remarks
0306686	09/24/03	04/21/05	No. 2 Fuel Oil	Unknown quantity to soil
0410523	12/22/04	12/29/05	Unknown	Unknown quantity, media not reported (cause by abandoned drums)
0412201	02/15/05	02/22/05	No. 6 Fuel Oil	Unknown quantity to groundwater[1]
0500862	04/20/05	12/29/05	Gasoline	25 gallons to soil

Notes:
1 – Online information for NYSDEC Spill No. 0412201 indicates that the spill was to groundwater; however, no additional information was provided.
NYSDEC – New York State Department of Environmental Conservation

8 PHYSICAL SITE SETTING

Geologic and hydrogeologic conditions at the Atlas Park site have been characterized for each parcel as part of RIs and remedial actions conducted under the NYSDEC BCP. An RI has been completed for each parcel; however, only one RI report was available for review for Parcel C. The following geologic and hydrogeologic conditions are summarized from the Parcel C RI report.

8.1 Geology

Historical fill (i.e., containing debris, asphalt, glass, and brick) underlies the surface at the site and varies from approximately 3 to 15 feet bgs. The fill material overlies glacial plain sediments of Holocene and Pleistocene origins. These most recent deposits (Holocene) are up to 50 feet thick and generally consist of sand, gravel, silt, and clay. This unit is typically underlain by glacial till or glacial outwash deposits of Pleistocene origin. The till is composed of clay, sand, gravel, and boulders, while the outwash deposits consist of fine to coarse sand with gravel, cobbles, and boulders. Bedrock at the site is greater than 400 feet bgs. The underlying rock is defined as the Hartland Formation (Och) comprised of interbedded granite, schist, and amphibolites (Langan 2011a).

8.2 Hydrogeology

Hydrogeologic conditions at the site have been characterized during separate RIs for Parcels A, B, and C. Groundwater elevations and flow at the site have been measured in a network of monitoring wells using depth to water field measurements in relation to a known

surveyed reference point (e.g., top of casing). Monitoring well locations within Parcel B are shown on Attachment 1 and within Parcel C are shown on Attachment 2. The depth to groundwater at the site has been reported to range between 53 and 63 feet bgs (Langan 2011a). This corresponds to groundwater elevations ranging between approximately 15 to 16 feet above mean sea level. Groundwater elevations and flow contours for Parcel B are presented in the most recent quarterly monitoring event (Langan 2011b) and the Final Engineering Report (Langan 2006) and are included as Attachments 3 and 4, respectively. Groundwater elevations and flow contours for Parcel C are presented in the RI Report (Langan 2011a) and included as Attachment 5. Groundwater flow direction at the site is reported to be to the south and southwest.

9 NATURE AND EXTENT (CURRENT UNDERSTANDING OF ENVIRONMENTAL CONDITIONS)

Numerous environmental investigations and remedial actions have been completed at the site. The following sections discuss available testing results and information; however, significant investigation and remedial reports were not available for review. The following table presents the investigation and remedial reports available for review and also presents other investigation or remedial reports referenced but not available for review:

Reporting	Date	Media Investigation/Cleanup	Available for Review
Site-Wide			
Phase I Environmental Site Assessment	2001	No analytical data	Yes
Phase II Environmental Site Investigation	2002	Soil	Yes
Parcel A			
Remedial Investigation Report	2005	Soil, Groundwater	No
Remedial Action Work Plan	2005	Soil	No
Final Engineering Report	2005	Soil	No
Technical Satisfactory Completion Memorandum and Certificate of Completion	2005	Soil	Yes
Parcel B			
IRM/RI Work Plan	2004	Soil, Groundwater	No
Supplemental RI Work Plan	2005	Soil, Groundwater	No
Remedial Investigation Report	2005	Soil, Groundwater	No

Reporting	Date	Media Investigation/Cleanup	Available for Review
Supplemental Remedial Investigation Report	2006	Soil, Groundwater	No
Supplemental RI Addendum	2006	Off-Site Vapor	No
Remedial Action Work Plan	2006	Soil, Groundwater	No
Final Engineering Report	2006	Soil, Groundwater	Yes
Groundwater Monitoring Reports (2006 to 1st Quarter 2011)	2006 – 2011	Groundwater	No
2nd Quarter Groundwater Monitoring Report	2011	Groundwater	Yes
Parcel C			
Phase 2 Environmental Site Investigation	2008	Soil, Groundwater	Yes
Remedial Investigation Work Plan	2011	Soil, Groundwater	No
Remedial Investigation Report	2011	Soil, Groundwater	Yes

Notes
IRM – Interim Remedial Measure
RI – Remedial Investigation

9.1 Soil

Soil Investigations ☒ Yes ☐ No
Bank Samples ☐ Yes ☐ No ☒ Not Applicable
Soil-Vapor Investigations ☒ Yes ☐ No

9.1.1 Soil Investigations

Numerous soil investigations have been completed at the site. A majority of the investigations were performed to support property redevelopment and were conducted under the NYSDEC BCP. Based on available information, a total of at least 80 borings have been completed at the site for investigation of Parcels A, B, and C. Soil samples were analyzed for polychlorinated biphenyls (PCBs), VOCs, SVOCs, metals, and petroleum hydrocarbons. Investigation testing results were not available for Parcels A and B; however, available reports provided summaries of the investigation results. Investigation testing results were available for Parcel C. The following presents a summary of the soil conditions for each parcel, and if available, presents selected testing results.

9.1.1.1 Parcel A

Soil COPCs identified for Parcel A included carcinogenic polycyclic aromatic hydrocarbons (cPAHs) and metals, which consisted of mercury, arsenic, cadmium, chromium, copper, and lead (NYSDEC 2005). Elevated concentrations of these COPCs were primarily associated with historical fill placement and isolated operational areas such as USTs, drums, vaults, and piping. Soil testing results were not available for Parcel A.

9.1.1.2 Parcel B

A summary of the RI soil analytical results was described in the Final Engineering Report (Langan 2006) for Parcel B. RI results were summarized for three investigation activities: RI report (2005), supplemental RI report (2006), and a supplemental RI addendum (2006). Soil COPCs identified for Parcel B included cPAHs, metals (mercury, arsenic, barium, cadmium, copper, and lead), and the CVOCs PCE and TCE. Soil analytical results were not available for Parcel B.

9.1.1.3 Parcel C

Soil analytical results for Parcel C were presented in two Phase 2 Environmental Site Investigation reports (Metcalf 2002; Langan 2008) and an RI report (Langan 2011a). A total of 53 borings were completed and one test pit in the location of a suspected UST. Soil samples were analyzed for PCBs, VOCs, SVOCs, metals, and pesticides. Soil analytical results reported in the 2008 Phase 2 report were not legible; constituents with results exceeding NYSDEC Unrestricted Use Soil Cleanup Objectives (SCOs) from the 2011 RI report are summarized in the following table. Soil sampling intervals consisted of 0 to 4 feet bgs and 4 to 8 feet bgs.

Analyte	Units	Minimum Soil Concentration	Maximum Soil Concentration
Total PCBs	µg/kg	ND	1,735
PAHs			
Benzo(a)anthracene	µg/kg	24.1U	3,030
Benzo(a)pyrene	µg/kg	12.8U	2,190
Benzo(b)fluoranthene	µg/kg	47.1J	2,140
Benzo(k)fluoranthene	µg/kg	15.1U	2,630

Analyte	Units	Minimum Soil Concentration	Maximum Soil Concentration
Chrysene	µg/kg	20.4J	2,400
Indeno(1,2,3-cd)pyrene	µg/kg	17.3U	1,030
Metals			
Lead	mg/kg	26.4J	1,950J
Lead (TCLP)	mg/L	0.0048U	43.9[1]

Notes:
1 – Reported in 2008 Phase 2 Environmental Site Investigation.
µg/kg – microgram per kilogram
J – estimated
mg/kg – milligram per kilogram
mg/L – milligram per liter
PAH – polycyclic aromatic hydrocarbon
PCB – polychlorinated biphenyl
ND – not detected; detection limits not provided in source documents
TCLP – Toxicity Characteristic Leaching Procedure
U – below reporting limit

Soil COPCs identified in Parcel C were generally consistent with those identified in Parcels A and B, primarily consisting of PAHs and metals. Elevated soil concentrations were present in areas of historical fill and localized operational areas. No COPCs were identified within the native soil unit underlying historical fill (Langan 2011a).

9.1.2 Soil Vapor Investigations

Due to the presence of the CVOCs PCE and TCE in both soil and groundwater, soil vapor investigations were completed throughout the site and in off-site areas. Soil vapor investigations were completed during the RI activities for Parcels A, B, and C. PCE and TCE were both detected above the New York State Department of Health (NYSDOH) guidance values in all parcels. As part of the remedial action for Parcel B, it was determined that remedial measures for soil vapor would be implemented. The soil vapor remedial measures included several sub-slab depressurization systems installed beneath the new buildings, to be continually operated and annually certified. In addition, off-site soil vapor monitoring was to occur in coordination with NYSDEC and NYSDOH.

9.2 Groundwater

Groundwater Investigations	☒ Yes ☐ No
NAPL Presence (Historical and Current)	☐ Yes ☒ No
Dissolved COPC Plumes	☒ Yes ☐ No
Visual Seep Sample Data	☐ Yes ☐ No ☒ Not Applicable

9.2.1 Groundwater Investigations

Numerous groundwater investigations have been completed at the site since 2004. Based on available information, a total of at least 17 monitoring wells were installed on site and five monitoring wells were installed off site. The depth to groundwater beneath the site is approximately 50 to 60 feet bgs. Groundwater sampling was performed during the RI activities for Parcels A, B, and C and also incorporated into the compliance monitoring for the remedial action for Parcel B. Monitoring well locations for Parcels B and C are included in Attachments 6 and 7, respectively. Historical groundwater samples were analyzed for VOCs, SVOCs, PCBs, metals, and pesticides. Current quarterly groundwater monitoring includes analyses for VOCs (Langan 2011b).

Historical RI groundwater sampling results have determined that the groundwater COPCs at the site consist of the CVOCs PCE and TCE. Groundwater sampling has included VOCs, SVOCs, PCBs, metals, and pesticides; however, only limited VOCs have been detected above NYSDEC Technical and Operational Guidance Series (TOGS) standards. In addition to PCE and TCE, historical VOC testing has shown 1,1,1-trichloroethane; benzene; cis-1,2-dichloroethene; and methylene chloride exceeding TOGS standards; however, these detections were very limited and occurred prior to 2009.

Historical and current groundwater sampling results for PCE and TCE (Langan 2011b) are summarized in the following table:

Analyte	Units	Maximum On-Site Historical/Current Groundwater Concentration	Maximum Off-Site Historical/Current Groundwater Concentration
VOCs			
Tetrachloroethylene	µg/L	360/84	55/15
Trichloroethylene	µg/L	14.7/3.7	17/6.9

Notes:
µg/L – microgram per liter
VOC – volatile organic compound

9.3 Surface Water

Surface Water Investigation	☐ Yes	☒ No
SPDES Permit (Current or Past)	☐ Yes	☒ No
Industrial Wastewater Discharge Permit (Current or Past)	☒ Yes	☐ No
Stormwater Data	☐ Yes	☒ No
Catch Basin Solids Data	☐ Yes	☒ No
Wastewater Data	☐ Yes	☒ No

9.3.1 Stormwater and Wastewater Systems

Information available for review did not discuss stormwater or wastewater management practices at the site. Stormwater drainage in the vicinity is within the southeast extent of the Bowery Bay WPCP sewershed (NYCDEP 2007). No information was available describing the historical or current on-site stormwater or wastewater infrastructure.

9.3.2 Industrial Wastewater Discharge Permit

An IWD permit is referenced in the Phase I Environmental Site Assessment report (Ambient 2001) for Building 32; however, no details are provided regarding the type or quantity of discharge. No other information was available regarding stormwater or wastewater management at the site.

9.4 Sediment

Creek Sediment Data	☐ Yes	☐ No	☒ Not Applicable

No sediment investigations have been conducted at the site.

9.5 Air

Air Permit	☐ Yes ☒ No
Air Data	☐ Yes ☒ No

Information related to air discharges was not located for this site. As part of remedial activities, two on-site AS/SVE systems operate within Parcel B and new buildings within Parcel A and B were constructed with a sub-slab depressurization system. Information related to the operation and maintenance of these systems was not available.

10 REMEDIATION HISTORY (INTERIM REMEDIAL MEASURES AND OTHER CLEANUPS)

The site has undergone remedial actions for Parcels A and B under the NYSDEC BCP in coordination with property redevelopment. Parcel C is currently undergoing RI finalization and remedial planning also under the NYSDEC BCP. The remedial action in Parcels A and B are summarized in the 2007 Phoenix Awards presented for successful coordination of the Brownfield program and redevelopment (Phoenix Awards 2007).

Both Parcel A and B were issued COCs by NYSDEC for the remedial actions completed. The site was separated into separate parcels due to different remedial strategies and redevelopment phasing. The remedial action for Parcels A and B both included the demolition of industrial buildings and associated infrastructure, excavation and removal of buried drums, and localized soil excavations including PCB and lead-contaminated soil. The COC for Parcel A resulted in no land use restrictions or need for ongoing remedial controls. Parcel B remediation involved localized excavation of PCE- and TCE-impacted soil and installation of two AS/SVE systems to address PCE- and TCE-impacted groundwater. In addition, to address soil vapor issues, sub-slab depressurization systems were installed in new buildings at Parcels A and B. Parcel B required an environmental easement to address residual soils left in place adjacent to original buildings retained on site, and operation and maintenance of the AS/SVE and sub-slab depressurization systems. The results of ongoing

quarterly groundwater monitoring have defined the groundwater plume and have shown a decrease in PCE and TCE concentrations.

Parcel C is currently undergoing final RI reporting and remedial planning under the NYSDEC BCP. RI results have identified impacted historical fill ranging in thickness between 3 and 15 feet bgs and localized soil areas with elevated SVOCs, lead, and PCB concentrations.

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12 ATTACHMENTS

Figures

Figure 1 Site Vicinity Map: Atlas Park

Tables

Table 1 Potential Areas of Concern and Transport Pathways Assessment

Supplemental Attachments

Attachment 1 2nd Quarter Groundwater Sampling Results-Parcel B (Langan 2011)

Attachment 2 Site Plan-Parcel C (Langan 2011)

Attachment 3 2nd Quarter Groundwater Countours-Parcel B (Langan 2011)

Attachment 4 Groundwater Flow Contours-Parcel B (Langan 2006)

Attachment 5 Groundwater Contour Map-Parcel C (Langan 2011)

Attachment 6 2nd Quarter TCE/PCE Groundwater Isoconcentration Contours-Parcel B (Langan, 2011)

Attachment 7 TCE/PCE Groundwater Isoconcentration Contours-Parcel B (Langan 2006)

Table 1

Potential Areas of Concern and Transport Pathways Assessment – Atlas Park

Potential Areas of Concern	Media Impacted					COPCs														Potential Complete Pathway						
						TPH			VOCs																		
Description of Areas of Concern	Surface Soil	Subsurface Soil	Groundwater	Catch Basin Solids	Creek Sediment	Gasoline-Range	Diesel – Range	Heavier – Range	Petroleum Related (e.g., BTEX)	VOCs	Chlorinated VOCs	SVOCs	PAHs	Phthalates	Phenolics	Metals	PCBs	Herbicides and Pesticides	Dioxins/Furans	Overland Transport	Groundwater	Direct Discharge – Overwater	Direct Discharge – Storm/Wastewater	Discharge to Sewer/CSO	Bank Erosion	Air Releases
Fill	√	√	--	?	--	?	?	?	?	?	?	√	√	?	?	√	?	?	?	--	--	--	--	?	--	--
Former Petroleum Storage Tanks (ASTs and USTs)	√	√	?	?	--	√	√	√	√	√	?	√	√	?	?	?	?	?	?	--	--	--	--	?	--	--
Former Manufacturing and Processing Operations (including conveyance piping, products and waste generation)	√	√	√	?	--	√	√	√	√	√	√	√	√	?	?	√	√	?	?	--	?	--	--	?	--	?
Former Boiler Rooms	√	√	--	?	--	?	√	√	?	?	?	√	√	?	?	?	?	?	?	--	--	--	--	?	--	?
Former Transformers	√	√	--	?	--	?	?	?	?	?	?	?	?	?	?	?	√	?	?	--	--	--	--	?	--	--
Spills	√	?	√	?	?	√	√	√	√	√	?	√	√	?	?	?	?	?	?	--	?	--	?	?	--	?
Equipment and products used during current site practices and operations (including current Waste Generation)	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	--	?	--	?	?	--	?

Notes:
√ – COPCs are/were present in areas of concern having a current or historical pathway that is determined to be complete or potentially complete.
? – There is not enough information to determine if COPC is/was present in area of concern or if pathway is complete.
-- – Current or historical pathway has been investigated and shown to be not present or incomplete.

AST – aboveground storage tank
BTEX – benzene, toluene, ethylbenzene, and xylene
COPC – constituent of potential concern
CSO – combined sewer overflow
PAH – polycyclic aromatic hydrocarbon
PCB – polychlorinated biphenyl
SVOC – semi-volatile organic compound
TPH – total petroleum hydrocarbons
UST – underground storage tank
VOC – volatile organic compound

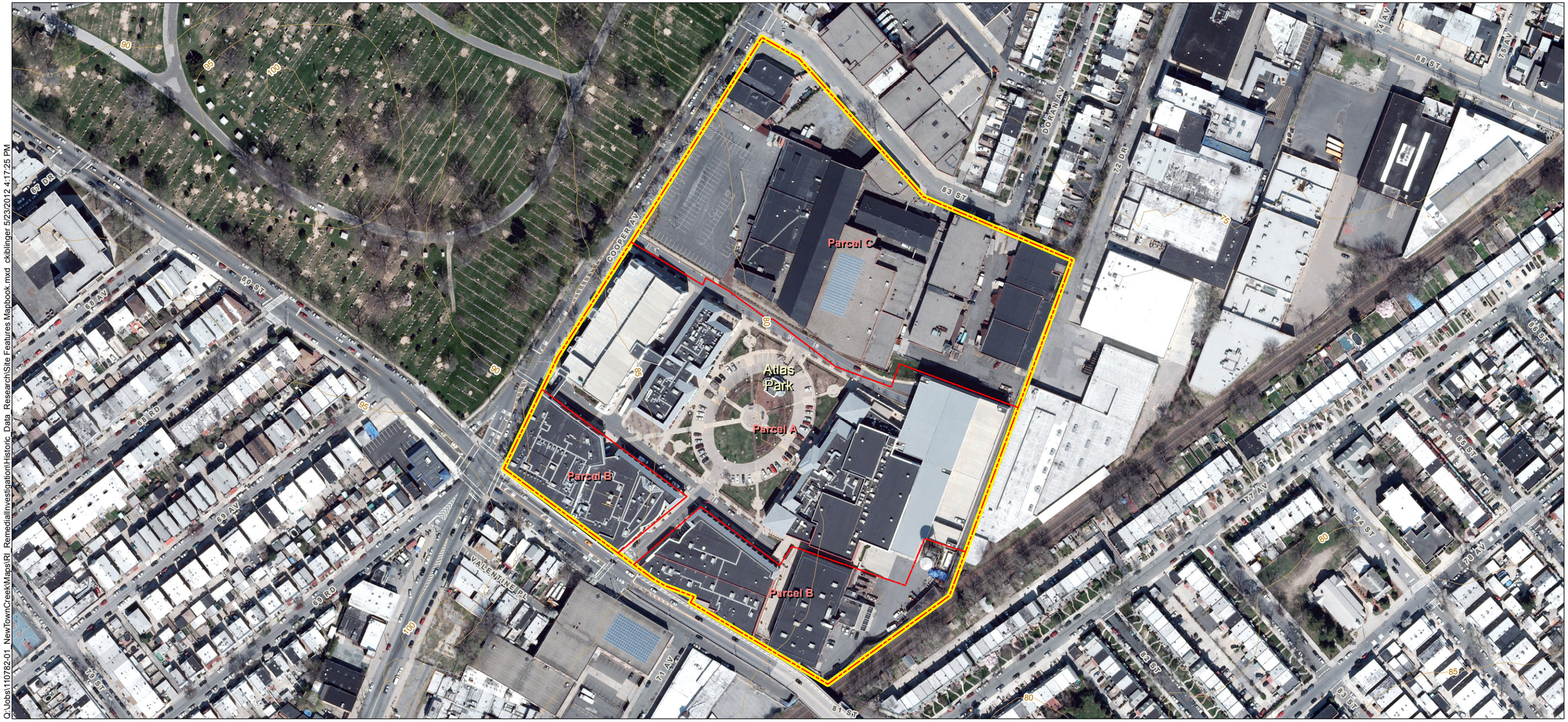

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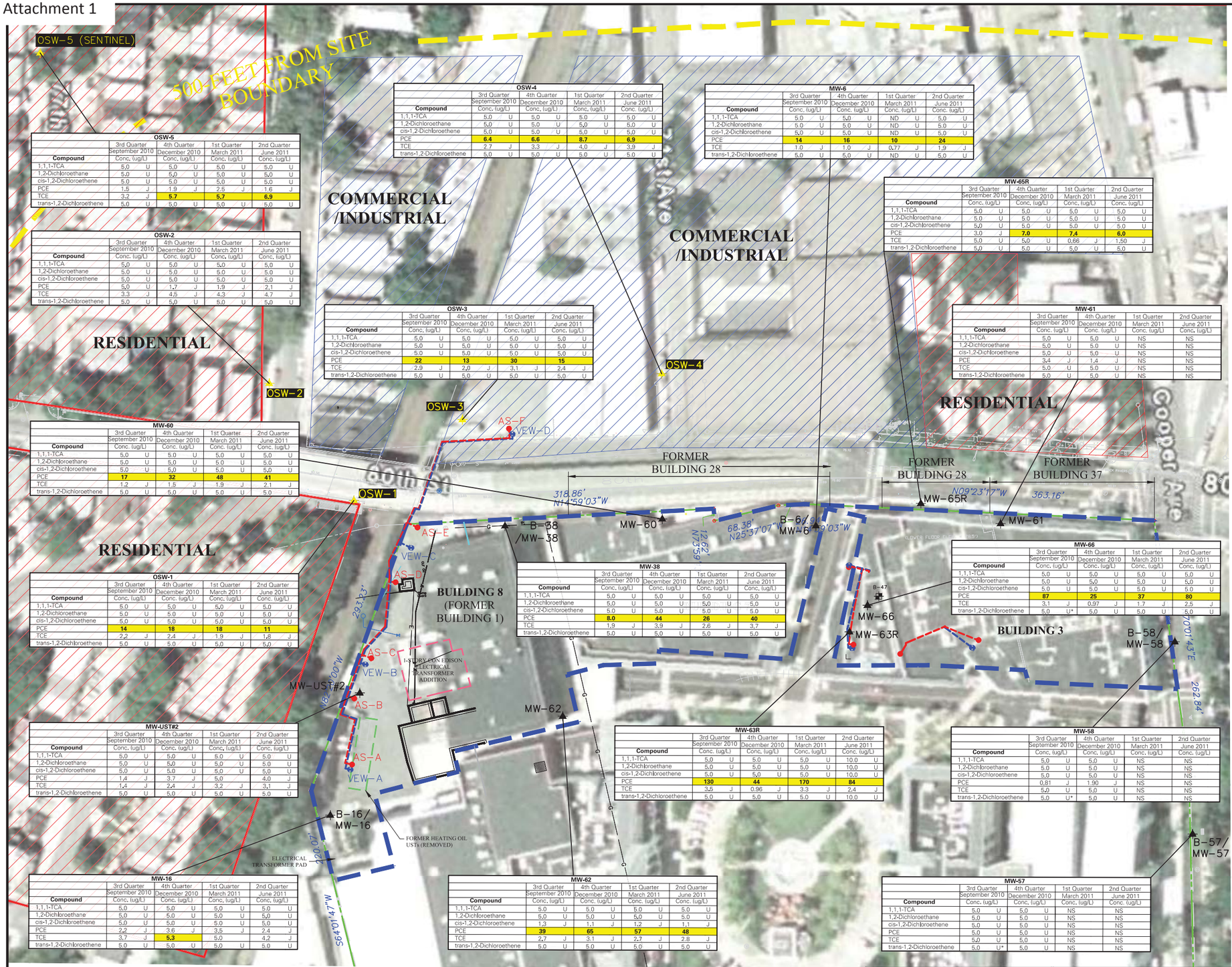
Figure 1
Site Vicinity Map
Draft Upland Site Summary: Atlas Park
Newtown Creek RI/FS

SUPPLEMENTAL ATTACHMENTS

Attachment 1



OSW-5

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U
PCE	1.5	J	1.9	J	2.5	J	1.6	J
TCE	3.2	J	**5.7**		**5.7**		**6.9**	
trans-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U

OSW-2

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U
PCE	5.0	U	1.7	J	1.9	J	2.1	J
TCE	3.3	J	4.5	J	4.3	J	4.7	J
trans-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U

OSW-3

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U
PCE	**22**		**13**		**30**		**15**	
TCE	2.9	J	2.0	J	3.1	J	2.4	J
trans-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U

OSW-4

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U
PCE	**6.4**		**6.6**		**8.7**		**6.9**	
TCE	2.7	J	3.3	J	4.0	J	3.9	J
trans-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U

MW-6

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	ND	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	ND	U	5.0	U
cis-1,2-Dichloroethene	5.0	U	5.0	U	ND	U	5.0	U
PCE	**14**		**16**		**10**		**24**	
TCE	1.0	J	1.0	J	0.77	J	1.9	J
trans-1,2-Dichloroethene	5.0	U	5.0	U	ND	U	5.0	U

MW-65R

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U
PCE	3.0	J	**7.0**		**7.4**		**6.0**	
TCE	5.0	U	5.0	U	0.66	J	1.50	J
trans-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U

MW-61

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	NS		NS	
1,2-Dichloroethane	5.0	U	5.0	U	NS		NS	
cis-1,2-Dichloroethene	5.0	U	5.0	U	NS		NS	
PCE	3.4	J	1.4	J	NS		NS	
TCE	5.0	U	5.0	U	NS		NS	
trans-1,2-Dichloroethene	5.0	U	5.0	U	NS		NS	

MW-60

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U
PCE	**17**		**32**		**48**		**41**	
TCE	1.2	J	1.5	J	1.9	J	2.1	J
trans-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U

MW-66

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U
PCE	**87**		**25**		**37**		**80**	
TCE	3.1	J	0.97	J	1.7	J	2.5	J
trans-1,2-Dichloroethene	5.0	U*	5.0	U	5.0	U	5.0	U

OSW-1

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U
PCE	**14**		**18**		**18**		**11**	
TCE	2.2	J	2.4	J	1.9	J	1.8	J
trans-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U

MW-38

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U
PCE	**8.0**		**44**		**26**		**40**	
TCE	1.9	J	3.9	J	2.6	J	3.7	J
trans-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U

MW-UST#2

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U
PCE	1.4	J	3.7	J	5.0		4.0	J
TCE	1.4	J	2.4	J	3.2	J	3.1	J
trans-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U

MW-63R

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	5.0	U	10.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U	10.0	U
cis-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	10.0	U
PCE	**130**		**44**		**170**		**84**	
TCE	3.5	J	0.96	J	3.3	J	2.4	J
trans-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	10.0	U

MW-58

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	NS		NS	
1,2-Dichloroethane	5.0	U	5.0	U	NS		NS	
cis-1,2-Dichloroethene	5.0	U	5.0	U	NS		NS	
PCE	0.81	J	1.90	J	NS		NS	
TCE	5.0	U	5.0	U	NS		NS	
trans-1,2-Dichloroethene	5.0	U*	5.0	U	NS		NS	

MW-16

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U
PCE	2.2	J	3.6	J	3.5	J	2.4	J
TCE	3.7	J	**5.3**		5.0		4.2	J
trans-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U

MW-62

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	5.0	U	5.0	U
1,2-Dichloroethane	5.0	U	5.0	U	5.0	U	5.0	U
cis-1,2-Dichloroethene	1.3	J	1.1	J	1.2	J	1.1	J
PCE	**39**		**65**		**57**		**48**	
TCE	2.7	J	3.1	J	2.7	J	2.8	J
trans-1,2-Dichloroethene	5.0	U	5.0	U	5.0	U	5.0	U

MW-57

Compound	3rd Quarter September 2010 Conc. (ug/L)		4th Quarter December 2010 Conc. (ug/L)		1st Quarter March 2011 Conc. (ug/L)		2nd Quarter June 2011 Conc. (ug/L)	
1,1,1-TCA	5.0	U	5.0	U	NS		NS	
1,2-Dichloroethane	5.0	U	5.0	U	NS		NS	
cis-1,2-Dichloroethene	5.0	U	5.0	U	NS		NS	
PCE	5.0	U	5.0	U	NS		NS	
TCE	5.0	U	5.0	U	NS		NS	
trans-1,2-Dichloroethene	5.0	U*	5.0	U	NS		NS	

LEGEND:

- OSW-4 — OFFSITE GROUNDWATER MONITORING WELL LOCATION
- MW-60 — GROUNDWATER MONITORING WELL
- AS-(# OR LETTER) — AIR SPARGE SYSTEM WELL AND ASSOCIATE PIPING
- VEW-(# OR LETTER) — SOIL VAPOR EXTRACTION SYSTEM WELL AND ASSOCIATE PIPING
- ATLAS PARK - PARCEL B BOUNDARY
- RESIDENTIAL PROPERTIES
- COMMERCIAL/INDUSTRIAL PROPERTIES

NOTES:

1. NYSDEC TOGS EXCEEDANCES ARE BOLD AND HIGHLIGHTED
2. BASEMAP WAS REFERENCED FROM GOOGLE EARTH (TM), OBTAINED AUGUST 2008.

1,1,1 TCA - 1,1,1-TRICHLOROETHANE
PCE - TETRACHLOROETHENE
TCE - TRICHLOROETHENE
ug/L - MICROGRAMS PER LITER

QUALIFIERS:

U - DETECTED BELOW METHOD DETECTION LIMIT
U* - REPORTING LIMIT ABOVE STANDARD
J - ESTIMATED VALUE BELOW METHOD DETECTION LIMIT
H - SAMPLE WAS PREPPED OR ANALYZED BEYOND THE SPECIFIED HOLDING TIME
NS - WELL WAS NOT SAMPLED DURING THIS EVENT

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Project
ATLAS PARK SITE - PARCEL B
QUEENS NEW YORK

2nd QUARTER GROUNDWATER SAMPLING RESULTS (cVOCs Only) JUNE 2011

Project No.	170151101
Date	06/24/2011
Scale	1"=50'
Drn. By	EB
Chkd. By	JPB
Drawing No.	2
	2 Of 5

Filename: \\langan.com\data\NY\data1\170151101\Office Data\Reports\Quarterly Groundwater\2011 2nd Q\Figures\Cadd Files\Figure 2 – Sampling Results June 2011.dwg Date: 6/24/2011 Time: 10:32 User: ebourbon Style Table: Langan Color.stb Layout: Figure 2

Attachment 2

LEGEND

- PROPERTY BOUNDARY
- BUILDINGS LOCATIONS
- SV-# SOIL VAPOR LOCATION
- SB-# SOIL BORING LOCATION
- MW-# MONITORING WELL LOCATION
- PREVIOUS SOIL VAPOR LOCATION
- PREVIOUS SOIL VAPOR
- PREVIOUS MONITORING WELL LOCATION
- PREVIOUS TEST TRENCH
- TEST PIT LOCATION
- APPOXIMATE LOCATION OF FORMER BUILDINGS/CURRENT ASPHALT PARKING LOT

NOTES

1. BASE MAP FROM ARCHITECTURAL SURVEY DRAWN BY MONTROSE DATED DECEMBER 2001.

Warning: It is a violation of the NYS Education Law Article 145 for any person, unless he is acting under the direction of a licensed Professional Engineer, to alter this item in any way.

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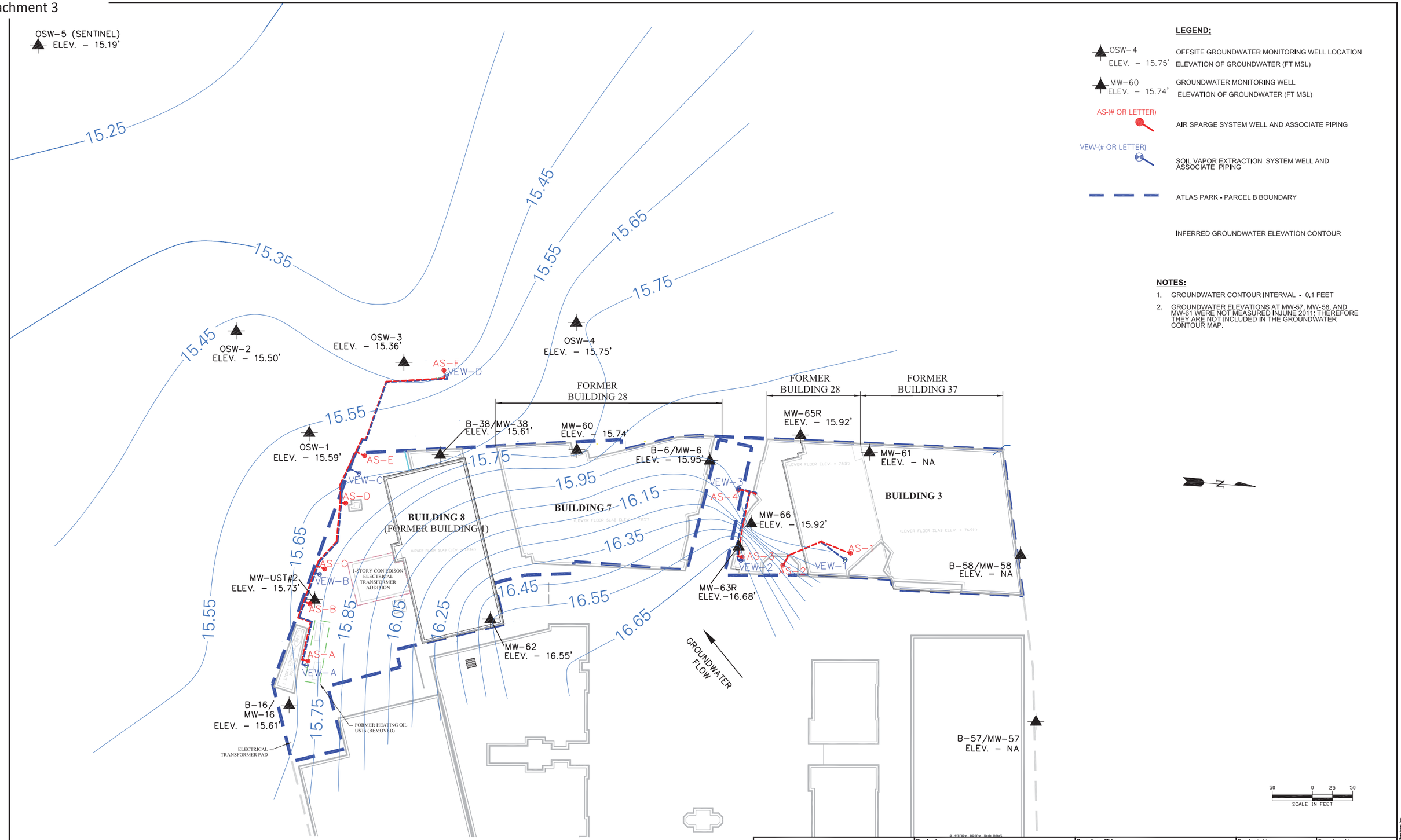
Project
REMEDIAL INVESTIGATION
ATLAS PARK - PARCEL C
QUEENS NEW YORK

Drawing Title
SITE PLAN

Project No. 170008802	Figure No. 2
Date 05/20/2011	
Scale 1" = 30'	
Drn. By SPL	
Last Revised -	Of 5

Filename: \\langan.com\data\NY\data8\170008802\Cadd Data - 170008802\Environmental\FIGURE 2 - SITE PLAN (05102011).dwg Date: 5/20/2011 Time: 16:47 User: slowes Style Table: ---- Layout: FIGURE 2 - SITE PLAN

Attachment 3



LEGEND:

- OSW–4 / ELEV. – 15.75' — OFFSITE GROUNDWATER MONITORING WELL LOCATION / ELEVATION OF GROUNDWATER (FT MSL)
- MW–60 / ELEV. – 15.74' — GROUNDWATER MONITORING WELL / ELEVATION OF GROUNDWATER (FT MSL)
- AS-(# OR LETTER) — AIR SPARGE SYSTEM WELL AND ASSOCIATE PIPING
- VEW-(# OR LETTER) — SOIL VAPOR EXTRACTION SYSTEM WELL AND ASSOCIATE PIPING
- ATLAS PARK - PARCEL B BOUNDARY
- INFERRED GROUNDWATER ELEVATION CONTOUR

NOTES:

1. GROUNDWATER CONTOUR INTERVAL - 0.1 FEET
2. GROUNDWATER ELEVATIONS AT MW-57, MW-58, AND MW-61 WERE NOT MEASURED INJUNE 2011; THEREFORE THEY ARE NOT INCLUDED IN THE GROUNDWATER CONTOUR MAP.

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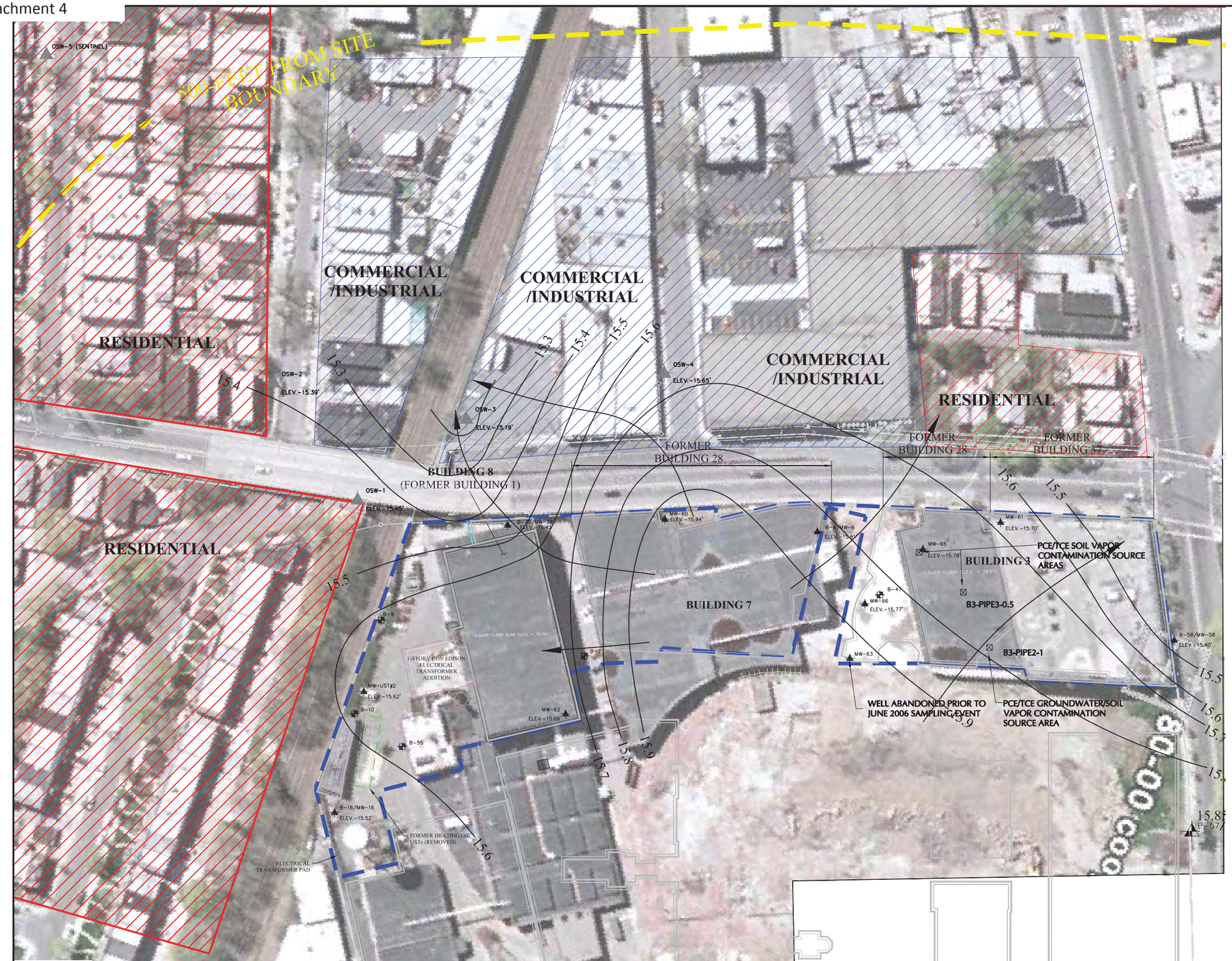
Project	ATLAS PARK SITE - PARCEL B QUEENS NEW YORK
Drawing Title	2nd QUARTER GROUNDWATER CONTOURS JUNE 2011
Project No.	170151101
Date	06/23/2011
Scale	1"=50'
Drn. By	EB
Chkd. By	JPB
Drawing No.	5
	5 Of 6

Attachment 4



LEGEND

- OSW-4 / ELEV.-15.65' — OFFSITE GROUNDWATER MONITORING WELL LOCATION; ELEVATION OF GROUNDWATER (FT MSL)
- MW-60 / ELEV.-15.78' — GROUNDWATER MONITORING WELL
- ATLAS PARK - PARCEL B BOUNDARY
- RESIDENTIAL PROPERTIES
- COMMERCIAL/INDUSTRIAL PROPERTIES
- GROUNDWATER FLOW ARROW
- 15.9 — GROUNDWATER ELEVATION CONTOUR (FT ABOVE MSL)

NOTE:

1. CONTOURS DASHED WHERE INFERRED.
2. BASEMAP WAS REFERENCED FROM GOOGLE EARTH(TM)
3. ALL MONITORING WELLS ONSITE WERE PREVIOUSLY SAMPLED IN FEB/MAR 2006. THOSE CONCENTRATIONS ARE SHOWN IN PARENTHESES.

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Project
ATLAS PARK SITE - PARCEL B
FINAL ENGINEERING REPORT
QUEENS NEW YORK

Drawing Title
GROUNDWATER FLOW CONTOURS JUNE 2006

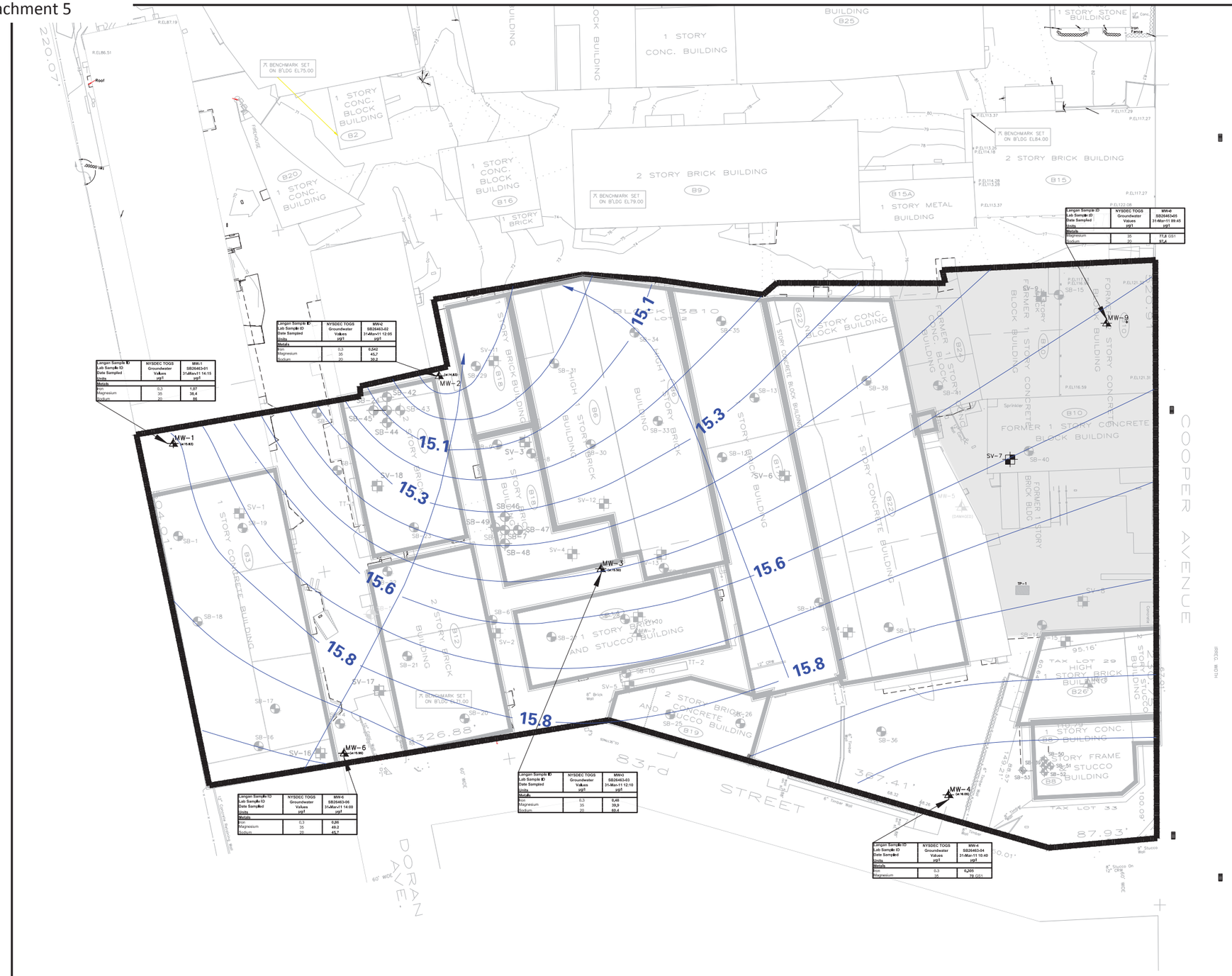
Project No.	5555113
Date	9/14/06
Scale	1"=50'
Drn. By	JLV
Last Revised	N/A

Drawing No. 17

1 Of 1

Filename: U:\Data1\5555113\Office Data\Reports\Final Engineering Report\2 Figures\Figure 17 – Groundwater Flow Contours June 2006 120806.dwg Date: 1/8/2007 Time: 17:28 User: jbarr Style Table: Langan Color.stb Layout: FER D SIZE SHEET

Attachment 5



Langan Sample ID Lab Sample ID Date Sampled Units	NYSDEC TOGS Groundwater Values µg/l	MW-1 SB26463-01 31-Mar-11 14:15 µg/l
Metals		
Iron	0.3	1.07
Magnesium	35	36.4
Sodium	20	66

Langan Sample ID Lab Sample ID Date Sampled Units	NYSDEC TOGS Groundwater Values µg/l	MW-2 SB26463-02 31-Mar-11 12:05 µg/l
Metals		
Iron	0.3	0.342
Magnesium	35	45.7
Sodium	20	39.2

Langan Sample ID Lab Sample ID Date Sampled Units	NYSDEC TOGS Groundwater Values µg/l	MW-3 SB26463-03 31-Mar-11 12:10 µg/l
Metals		
Iron	0.3	0.45
Magnesium	35	35.9
Sodium	20	69.4

Langan Sample ID Lab Sample ID Date Sampled Units	NYSDEC TOGS Groundwater Values µg/l	MW-4 SB26463-04 31-Mar-11 10:40 µg/l
Metals		
Iron	0.3	0.205
Magnesium	35	79 GS1

Langan Sample ID Lab Sample ID Date Sampled Units	NYSDEC TOGS Groundwater Values µg/l	MW-6 SB26463-06 31-Mar-11 14:00 µg/l
Metals		
Iron	0.3	0.26
Magnesium	35	40.2
Sodium	20	45.7

Langan Sample ID Lab Sample ID Date Sampled Units	NYSDEC TOGS Groundwater Values µg/l	MW-9 SB26463-09 31-Mar-11 09:45 µg/l
Metals		
Magnesium	35	77.8 GS1
Sodium	20	97.4

LEGEND

- PROPERTY BOUNDARY
- BUILDINGS LOCATIONS
- MW–# MONITORING WELL LOCATION
- SV–# SOIL VAPOR LOCATION
- SB–# SOIL BORING LOCATION
- TT–# TEST TRENCH LOCATION
- TP–1 TEST PIT LOCATION
- APPOXIMATE LOCATION OF FORMER BUILDINGS/CURRENT ASPHALT PARKING LOT
- –15.3– GROUNDWATER CONTOUR LINE (FEET MSL)
- ESTIMATED GROUNDWATER FLOW DIRECTION

NOTES

1. BASE MAP FROM ARCHITECTURAL SURVEY DRAWN BY MONTROSE DATED DECEMBER 2001.
2. RESULTS ARE COMPARED TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TECHNICAL & OPERATIONAL GUIDANCE SERIES 1.1.1 DOCUMENT (TOGS) GROUNDWATER VALUES
3. ONLY TOGS EXCEEDENCES ARE SHOWN.
4. CONCENTRATIONS EXCEEDING APPLICABLE CRITERIA ARE SHOWN IN **BOLD.**
5. GROUNDWATER CONTOUR INTERVAL IS 0.1 FEET.

*= ELEVATION DATA IS NOT YET AVAILABLE FOR MW-9; MW-9 WAS NOT ACCESSIBLE ON THE DAY IT WAS SCHEDULE TO BE SURVEYED.
UG/L = MICROGRAMS PER LITER
GS1 = SAMPLE DILUTION REQUIRED.

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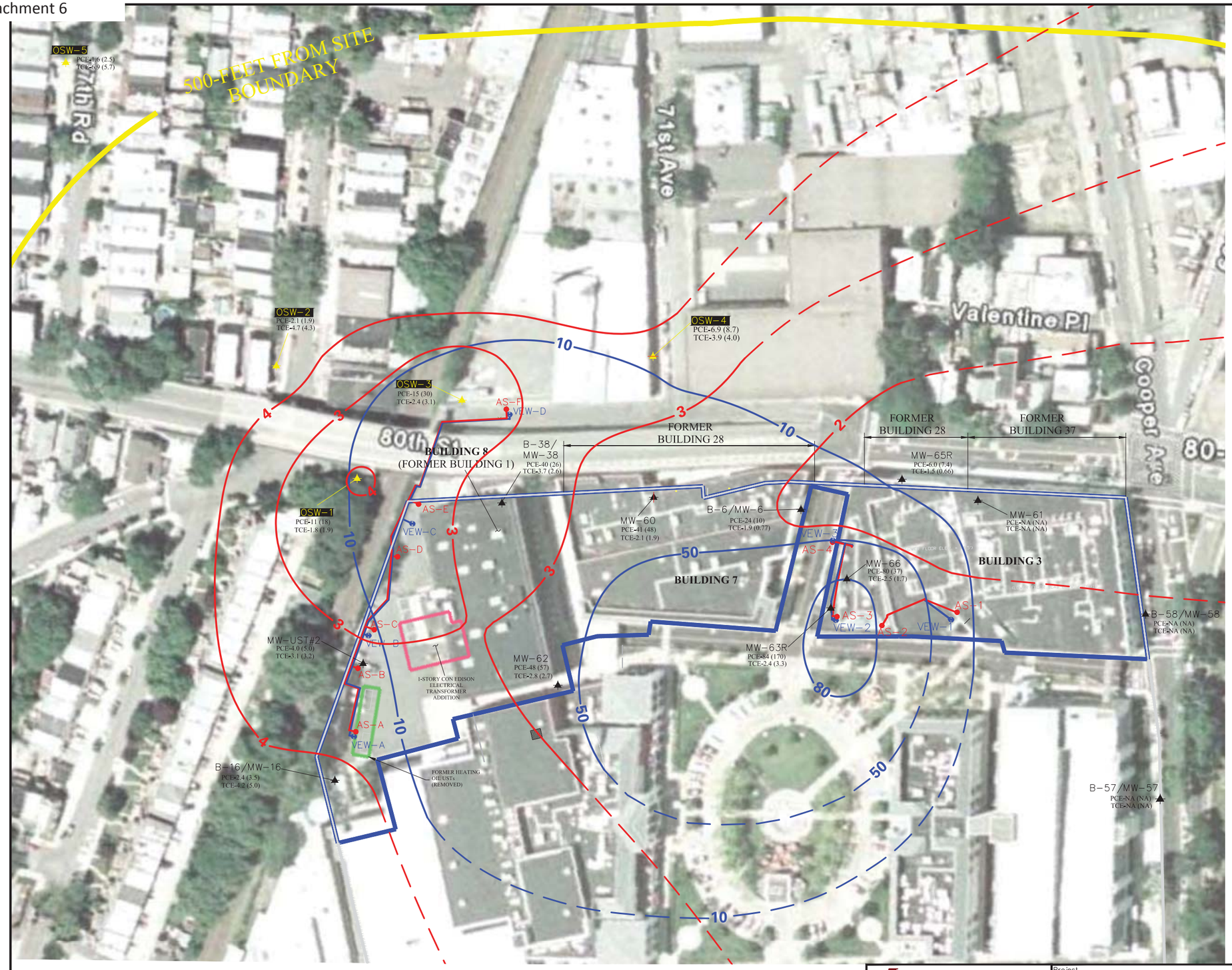
Project
REMEDIAL INVESTIGATION
ATLAS PARK - PARCEL C
QUEENS NEW YORK

Drawing Title
TOGS AWQS EXCEEDENCES IN GROUNDWATER SAMPLES AND GROUNDWATER CONTOUR MAP

Project No.	170008802	Figure No.
Date	05/24/2011	4
Scale	1" = 40'	
Drn. By	SPL	
Last Revised	-	Of 5

Filename: \\langan.com\data\NY\data8\170008802\Cadd Data – 170008802\Environmental\FIGURE 4 – CONTOUR AND GROUNDWATER SAMPLE EXCEEDANCE MAP.dwg Date: 5/24/2011 Time: 16:30 User: nsinha Style Table: Langan.stb Layout: D Size Sheet (Bottom)

Attachment 6



LEGEND:

- OSW-4 — OFFSITE GROUNDWATER MONITORING WELL LOCATION
- MW-60 — GROUNDWATER MONITORING WELL (PCE AND TCE CONCENTRATIONS IN ug/l)
- ATLAS PARK - PARCEL B BOUNDARY
- PCE-80 (37) — PCE CONCENTRATION (ug/L) - 2Q JUNE 2011 SAMPLE (PCE CONCENTRATION (ug/L) - 1Q MARCH 2011 SAMPLE)
- TCE-2.5 (1.7) — TCE CONCENTRATION (ug/L) - 2Q JUNE 2011 SAMPLE (TCE CONCENTRATION (ug/L) - 1Q MARCH 2011 SAMPLE)
- 10 — PCE ISOCONCENTRATION CONTOUR (ug/L)
- 4 — TCE ISOCONCENTRATION CONTOUR (ug/L)
- AS-(# OR LETTER) — AIR SPARGE SYSTEM WELL AND ASSOCIATE PIPING
- VEW-(# OR LETTER) — SOIL VAPOR EXTRACTION SYSTEM WELL AND ASSOCIATE PIPING

NOTES:

1. DASHED CONTOURS WHERE INFERRED.
2. BASEMAP WAS REFERENCED FROM GOOGLE EARTH(TM), OBTAINED AUGUST 2008.
3. ALL MONITORING WELLS ONSITE WERE PREVIOUSLY SAMPLED DECEMBER 2011. THOSE CONCENTRATIONS ARE SHOWN IN PARENTHESES.
4. OSW-5 (SENTINEL WELL) WAS NOT INCLUDED IN THE PCE/TCE ISOCONCENTRATION CONTOURS
5. MONITORING WELLS MW-57, MW-58, AND MW-61 WERE NOT SAMPLED DURING THE MARCH 2011 AND JUNE 2011 SAMPLING EVENTS.

N

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Project: ATLAS PARK SITE - PARCEL B
QUEENS NEW YORK

Drawing Title: 2nd QUARTER TCE/PCE GROUNDWATER ISOCONCENTRATION CONTOURS JUNE 2011

Project No.	170151101
Date	06/24/2011
Scale	1"=50'
Drn. By	EB
Chkd. By	JPB

Drawing No. 3

3 Of 5

Attachment 7

LEGEND

- OSW-4 — OFFSITE GROUNDWATER MONITORING WELL LOCATION
- MW-60 — GROUNDWATER MONITORING WELL (PCE AND TCE CONCENTRATIONS IN ug/l)
- ATLAS PARK - PARCEL B BOUNDARY
- PCE-68.4(87.3) — PCE CONCENTRATION (ug/L) - June 2006 Sample (PCE CONCENTRATION (ug/L) - Feb/Mar 2006 Sample)
- TCE-3.8(2.5) — TCE CONCENTRATION (ug/L) - June 2006 Sample (TCE CONCENTRATION (ug/L) - Feb/Mar 2006 Sample)
- 5 — PCE ISOCONCENTRATION CONTOUR (ug/L)
- 5 — TCE ISOCONCENTRATION CONTOUR (ug/L)
- RESIDENTIAL PROPERTIES
- COMMERCIAL/INDUSTRIAL PROPERTIES

NOTE:

1. CONTOURS DASHED WHERE INFERRED.
2. BASEMAP WAS REFERENCED FROM GOOGLE EARTH(TM)
3. ALL MONITORING WELLS ONSITE WERE PREVIOUSLY SAMPLED IN FEB/MAR 2006. THOSE CONCENTRATIONS ARE SHOWN IN PARENTHESES.

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Project: THE SHOPS AT ATLAS PARK-PARCEL B FINAL ENGINEERING REPORT
QUEENS NEW YORK

Drawing Title: TCE/PCE GROUNDWATER ISOCONCENTRATION CONTOURS JUNE 2006

Project No.	5555113
Date	6/26/06
Scale	1"=50'
Drn. By	JLV
Lost Revised	N/A

Drawing No. 7

1 Of 1

Filename: \\NYSTORAGE\Data1\5555113\Office Data\Reports\Site Management Plan\Figures\OLD Figures\Figure 4 - TCE_PCE Isonconcentrations.dwg Date: 1/8/2007 Time: 17:50 User: jbarr Style Table: Langan Color.stb Layout: FER Figure 7 D Size Sheet (Bottom)